

Dominion Energy New England, Inc.  
Dominion Energy Salem Harbor  
24 Fort Avenue, Salem, MA 01970

PASS

CB 2/15/06



**Dominion®**

January 30, 2006

Mr. James Belsky  
Bureau of Waste Prevention, Section Chief  
Massachusetts Department of Environmental Protection  
Metropolitan Boston/Northeast Regional Office  
205B Lowell Street  
Wilmington, MA 01887

Dear Mr. Belsky:

Re: 4<sup>th</sup> Quarter 2005 Quarterly Excess Emission Report-Salem Harbor Generating Station

In accordance with the requirements of 310 CMR 7.14: (2), Dominion Energy New England, Inc., is submitting its quarterly excess emission report for Salem Harbor Station, Unit 1,2,3 and 4. The established reporting format is used as agreed with the Department in 2004. The report is organized as follows:

Summary Table  
Part I – Operating Time  
Part II – Opacity  
Part III – NOx  
Part IV – CO  
Part V – CEM

It is our understanding that excess emissions are reportable only when there is a fire in the boiler.

If you have any questions please contact Robert DeRosier, Station Environmental Compliance Coordinator at 978-740-8402.

Very Truly Yours,

Michael Fitzgerald  
Station Director

cc: E. Braczyk  
L. Arak  
R. DeRosier  
Dulong

**RECEIVED**

JAN 30 2006

DEP  
NORTHEAST REGIONAL OFFICE

SH\_EER\_05Q4.xls

1/26/2006

<b>Salem Harbor Station</b>				
<b>Excess Emissions and CEMS Performance Summary Report</b>				<b>Q4 2005</b>
<b>Summary</b>	<b>UNIT 1</b>	<b>UNIT 2</b>	<b>UNIT 3</b>	<b>UNIT 4</b>
Total Source Operating Time	2,166.50	2,183.50	2,165.00	571.00
<b>CEM Online Hours</b>				
Nox [TECo monitor]	2,166.50	2,183.50	2,165.00	570.00
CO [TECo monitor]	2,166.50	2,182.25	2,165.00	568.75
Opacity [USI monitor]	2,158.60	2,181.67	2,158.52	565.42
<b>Percentage of CEM/Online</b>				
Nox	100.00%	100.00%	100.00%	99.82%
CO	100.00%	99.94%	100.00%	99.61%
Opacity	99.64%	99.92%	99.70%	99.02%
<b>Applicable Limit (24 Hours)</b>				
Nox (lb/MMBtu)	0.33	0.33	0.33	0.28
CO (ppmvd @3%O <sub>2</sub> )	200	200	200	130
Opacity	Varies	Varies	Varies	Varies
<b>Excess Emissions Summary</b>				
Nox	Number of events	-	-	-
	Duration (hrs)	-	-	-
	% of uptime	0%	0%	0%
CO	Number of events	-	-	-
	Duration (hrs)	-	-	-
	% of uptime	0%	0%	0%
Opacity	Number of events	3	1	1
	Duration (hrs)	0.05	0.08	0.02
	% of uptime	0.0023%	0.0038%	0.0008%
<b>Excess Emissions (events) Due To:</b>				
Control Equipment Problems				
Process Problems	3	1	1	
Other Known/Unknown Causes				
Monitor Malfunctions				
<b>Startup/Shutdown Days</b>				
	4	3	2	29
<b>CEMS Performance Summary</b>				
<b>**Hi NOx Span/Low NOx Span</b>				
Zero Calibration Failures	0	0	0	0
Span Calibration Failures	0/0**	0/0**	0/0**	0/0**
<b>CEMS Downtime (hours) Due To:</b>				
Monitor Malfunctions	NOx	0.00	0.00	0.00
	CO	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00
		0.00	0.00	0.00
Non-Monitor Equipment Malfunctions	NOx	0.00	0.00	0.00
	CO	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00
		0.00	0.00	0.00
QA/QC Calibrations	NOx	0.00	0.00	0.00
	CO	0.00	0.00	0.00
	Opacity	7.90	1.83	6.48
		7.90	1.83	6.48
Other Known Causes	NOx	0.00	0.00	1.00
	CO	0.00	1.25	0.00
	Opacity	0.00	0.00	2.25
		0.00	1.25	3.25
Other Unknown Causes	NOx	0.00	0.00	0.00
	CO	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00
		0.00	0.00	0.00
Duration of CEMS Downtime (hours)	7.90	3.08	6.48	8.83
Percentage of Operating Hours	0.36%	0.14%	0.30%	1.55%

per Rb  
De Rosier  
J. [signature]  
CB

**SALEM HARBOR GENERATING STATION  
QUARTERLY EXCESS EMISSION REPORT  
October 1 to December 31, 2005**

**PART I     OPERATING TIME**

1. The aggregate operating time per calendar quarter when any fuel is being fired at any rate into the boiler:

UNIT	1	2	3	4
HOURS	2,166.50	2,183.50	2,165.00	571.00

**PART II     OPACITY**

**A. UNITS 1, 2, and 3 ( $20 \leq \text{opacity} < 40\%$ ): UNIT 4 ( $15 \leq \text{opacity} < 40\%$ )**

1. All 1-minute averages (excluding the first six 1-minute averages in each hour) when the observed opacity is greater than or equal to 20% and less than 40% during operation of Units 1, 2, and 3 or greater than or equal to 15% and less than 40% percent during operation of Unit 4:

TABLE A1 - OPACITY EXCEEDENCES $>20\%$ (or $15\%$ ) but $<40\%$ 4 <sup>th</sup> QUARTER 2005 UNITS 1,2,3 and 4					
UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
NONE					

2. The aggregate time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	0	0	0	0

3. The percentage of operating time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0%	0%	0%	0%

**B. ALL UNITS (Opacity  $>40\%$ )**

1. All 1-minute averages during unit operation when observed opacity is greater than or equal to 40% for Units 1, 2, 3, and 4:

TABLE B1 - OPACITY EXCEEDENCES >40%  
4<sup>th</sup> QUARTER 2005  
UNITS 1,2,3 and 4

UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
1	11/17/2005	22	49	49.7	
REASON: Coal and oil mix during AGC suspected.					Unit fuel switched to coal.
1	12/12/2005	1	23	53.0	
REASON: Precipitator section tripped due to over-current.					Reset precipitator and resumed operation.
1	12/25/2005	16	23	50.0	
REASON: Power failure to ID fan inlet damper controller caused opacity spike.					Dropped load, put all fans in manual.
2	10/01/2005	19	31	48.2	
			32	46.5	
			33	49.0	
			39	42.0	
			38	48.2	
REASON: Oil pressure control at burners malfunctioned.					Unit taken off line.
3	12/25/2005	17	03	46.9	
REASON: Power failure to ID fan inlet damper controller caused opacity spike. (same reason as 12/25 event on U1)					Dropped load, put all fans in manual.

2. The *aggregate* time reported in II.B.1 above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	3	5	1	0

3. The *percentage* of operating time reported in II.B.1 above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0.0023%	0.0038%	0.00076%	0%

**C. ALL UNITS (Aggregate excess opacity)**

1. The *percentage* of operating time when operating with excess opacity emissions, as defined above:

UNIT	1	2	3	4
PERCENT	0.0023%	0.0038%	0.00076%	0%

**D. ALL UNITS (Opacity monitors inoperative)**

1. The date and time identifying each period and its duration during which the opacity

system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments:

UNIT	DATE	START (24 HR)	FINISH (24 HR)	DURATION (Minutes)	NATURE OF REPAIRS
1	10/01/2005	0922	0928	7	Opacity Maintenance
1	10/14/2005	0909	1105	117	Calibration Error Test
1	10/14/2005	1336	1456	81	Opacity Maintenance
1	10/26/2005	1224	1228	5	Opacity Maintenance
1	12/05/2005	1029	1307	159	Calibration Error Test
2	10/26/2005	1224	1228	5	Opacity Maintenance
3	10/01/2005	0926	0929	4	Opacity Maintenance
3	10/01/2005	0933	0941	9	Opacity Maintenance
3	10/09/2005	0807	0812	6	Opacity Maintenance
3	10/11/2005	0919	1110	112	Calibration Error Test
3	10/26/2005	1220	1222	3	Opacity Maintenance
3	10/26/2005	1228	1232	5	Opacity Maintenance
3	11/20/2005	0928	0931	4	Opacity Maintenance
3	11/20/2005	0934	0938	5	Opacity Maintenance
3	11/21/2005	1028	1032	5	Opacity Maintenance
3	12/13/2005	0817	1033	137	Calibration Error Test
4	12/16/2005	1428	1630	123	Opacity Maintenance
4	12/20/2005	0845	0849	5	Opacity Maintenance
4	12/20/2005	1011	1310	180	Calibration Error Test

### **PART III NO<sub>x</sub>**

#### ***A. UNITS 1, 2 and 3 (24 hour average >0.33 lb/MMBtu); UNIT 4 (24 hour average >0.28 lb/MMBtu)***

1. All times when the 24-hour average for NO<sub>x</sub> is exceeded for Units 1, 2, 3 and 4:  
**NONE**
2. The aggregate time reported in III.A.1 above, is exceeded for Units 1,2,3 and 4:  
**NONE**
3. The percentage of operating time reported in III.A.1 above, for Units 1, 2, 3 and 4:  
**NONE**
4. All instances where NO<sub>x</sub> compliance is not achievable because of delivery of a previously undemonstrated coal:

NONE

**B. STARTUPS**

1. All times when startup hours are omitted from the calculation of the 24-hour average NOx for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average NOx Including Startups (lb/MM Btu)	Reportable 24-Hour Average NOx (lb/MM Btu)
2	12/10/05	7.00	0.382	0.000

**PART IV CO**

**A. ALL UNITS (Unit 1,2 and 3 CO > 200 ppmvd corrected to 3% O<sub>2</sub>, or 0.166 lbs/MMBtu; Unit 4 > 130 ppmvd corrected to 3%O<sub>2</sub>, or 0.101 lbs/MMBtu)**

1. All times when the 24-hour average for CO is exceeded for Units 1, 2, 3 and 4:  
NONE
2. The aggregate time reported in IV.A.1. above, is exceeded for Units 1, 2, 3 and 4:  
NONE
3. The percentage of operating time reported in IV.A.1. above, for Units 1, 2, 3 and 4:  
NONE
4. All instances where CO compliance is not achievable because of delivery of a previously undemonstrated coal:

NONE

**B. STARTUPS**

1. All times when startup hours are omitted from the calculation of the 24-hour average CO for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average CO Including Startups (lb/MM Btu)	Reportable 24-Hour Average CO (lb/MM Btu)
2	10/01/05	17.50	0.210	0.000
2	12/10/05	7.00	0.568	0.000
4	10/02/05	10.50	0.705	0.000
4	10/05/05	6.50	0.976	0.000
4	11/08/05	9.00	0.378	0.000
4	11/10/05	5.50	0.108	0.014
4	11/14/05	4.75	0.117	0.015
4	11/20/05	9.00	0.443	0.000
4	11/21/05	6.00	0.439	0.000
4	11/27/05	5.75	0.622	0.000
4	12/06/05	7.75	0.549	0.000
4	12/10/05	8.50	0.570	0.000

**PART V CEMS****A. ALL UNITS (CEMS out of service)**

1. Data and duration of the time that both the primary and redundant CEMS (not including opacity) are out of service due to malfunction, maintenance or adjustment. Time periods for routine calibration checks will not be included:

UNIT	DATE (Month/Day)	START (Hour)	FINISH (Hour)	DURATION (Hours)	CEM	NATURE, CAUSE AND CORRECTIVE ACTION
	NONE					

**B. ALL UNITS (CEMS Performance Tests)**

1. Most recent CEMS performance test results and date for both the primary and redundant systems:

UNIT	Date Complete	Performance Test	CEM	Result Summary
1	3/24/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
2	3/31/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
3	3/23/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.

4	7/6/05 6/24/05	RATA	SO2, NOx, CO2, CO Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
1	Primary 11/16/05 Redundant 11/18/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
2	Primary 11/26/05 Redundant 11/28/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
3	Primary 11/29/05 Redundant 11/30/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
4	Primary 12/14/05 Redundant 12/12/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
1	Redundant 12/11/05	Leak check	Flow	Passed
2	Redundant 12/12/05	Leak Check	Flow	Passed
3	Redundant 12/11/05	Leak Check	Flow	Passed
4	Redundant 12/18/05	Leak Check	Flow	Passed
1	12/05/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
2	12/10/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
3	12/13/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
4	12/20/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.



Dominion Energy New England, Inc.  
Dominion Energy Salem Harbor  
24 Fort Avenue, Salem, MA 01970

BWP- AQ REPORT  
PASS  
CB 11/23/05



**Dominion**

OP-COSMO

FMEF ✓  
NO<sub>x</sub> ✓  
LO ✓  
OPACITY ✓

October 30, 2005

Mr. James Belsky  
Bureau of Waste Prevention, Section Chief  
Massachusetts Department of Environmental Protection  
Metropolitan Boston/Northeast Regional Office  
1 Winter Street  
Boston, MA 02108

Dear Mr. Belsky:

Re: 3<sup>rd</sup> Quarter 2005 Quarterly Excess Emission Report-Salem Harbor Generating Station

In accordance with the requirements of 310 CMR 7.14: (2), Dominion Energy New England, Inc., is submitting its quarterly excess emission report for Salem Harbor Station, Unit 1,2,3 and 4 for the quarter. The established reporting format is used as agreed with the Department in 2004. The report is organized as follows:

Summary Table  
Part I – Operating Time  
Part II – Opacity  
Part III – NO<sub>x</sub>  
Part IV – CO  
Part V – CEM

It is our understanding that excess emissions are reportable only when there is a fire in the boiler.

If you have any questions please contact Robert DeRosier, Station Environmental Compliance Coordinator at 978-740-8402.

Very Truly Yours,

Michael Fitzgerald  
Station Director

cc: E. Braczyk  
L. Arak  
R. DeRosier  
S. Dulong

SH\_EER\_05Q3.xls

10/26/2005

Salem Harbor Station					
Excess Emissions and CEMS Performance Summary Report					Q3 2005
Summary		UNIT 1	UNIT 2	UNIT 3	UNIT 4
Total Source Operating Time		2,207.75	1,955.75	1,676.50	1,350.00
CEM Online Hours					
Nox [TECo monitor]		2,204.75	1,955.75	1,676.00	1,350.00
CO [TECo monitor]		2,204.75	1,955.00	1,676.00	1,337.50
Opacity [USI monitor]		2,204.87	1,951.68	1,673.30	1,349.30
Percentage of CEM/Online					
NOx		99.86%	100.00%	99.97%	100.00%
CO		99.86%	99.96%	99.97%	99.07%
Opacity		99.87%	99.79%	99.81%	99.95%
Applicable Limit (24 Hours)					
NOx (lb/MMBtu)		0.33	0.33	0.33	0.28
CO (ppmvd @3%O2)		200	200	200	130
Opacity		Varies	Varies	Varies	Varies
Excess Emissions Summary					
Nox	Number of events	-	-	-	-
	Duration (hrs)	-	-	-	-
	% of uptime	0%	0%	0%	0%
CO	Number of events	-	-	-	-
	Duration (hrs)	-	-	-	-
	% of uptime	0%	0%	0%	0%
Opacity	Number of events	1	2	5	-
	Duration (hrs)	0.02	0.07	0.22	-
	% of uptime	0.0008%	0.003%	0.013%	0.00%
Excess Emissions (events) Due To:					
Control Equipment Problems					
Process Problems		1	2	5	
Other Known/Unknown Causes					
Monitor Malfunctions					
Startup/Shutdown Days		1	7	13	55
CEMS Performance Summary		**Hi NOx Span/Low NOx Span			
Zero Calibration Failures		0	0	0	0
Span Calibration Failures		0/0**	0/0**	0/0**	0/0**
CEMS Downtime (hours) Due To:					
Monitor Malfunctions	NOx	0.00	0.00	0.00	0.00
	CO	0.00	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00	0.00
Non-Monitor Equipment Malfunctions	NOx	0.00	0.00	0.00	0.00
	CO	0.00	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00	0.00
QA/QC Calibrations	NOx	3.00	0.00	0.00	0.00
	CO	3.00	0.00	0.00	5.00
	Opacity	2.88	4.07	3.20	0.70
Other Known Causes	NOx	0.00	0.00	0.50	0.00
	CO	0.00	0.75	0.50	7.50
	Opacity	0.00	0.00	0.00	0.00
Other Unknown Causes	NOx	0.00	0.00	0.00	0.00
	CO	0.00	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00	0.00
Duration of CEMS Downtime (hours)		8.88	4.82	4.20	13.20
Percentage of Operating Hours		0.40%	0.25%	0.25%	0.98%

**SALEM HARBOR GENERATING STATION  
QUARTERLY EXCESS EMISSION REPORT  
July 1 to September 30, 2005**

**PART I     OPERATING TIME**

1. The aggregate operating time per calendar quarter when any fuel is being fired at any rate into the boiler:

UNIT	1	2	3	4
HOURS	2,207.75	1,955.75	1,676.50	1,350.00

**PART II     OPACITY**

**A. UNITS 1, 2, and 3 ( $20 \leq \text{opacity} < 40\%$ ): UNIT 4 ( $15 \leq \text{opacity} < 40\%$ )**

1. All 1-minute averages (excluding the first six 1-minute averages in each hour) when the observed opacity is greater than or equal to 20% and less than 40% during operation of Units 1, 2, and 3 or greater than or equal to 15% and less than 40% percent during operation of Unit 4:

TABLE A1 - OPACITY EXCEEDENCES >20% (or 15%) but <40% 3 <sup>rd</sup> QUARTER 2005 UNITS 1,2,3 and 4 (Unit 4 >15%)					
UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
3	9/22/05	2	47	21.7	
		2	48	20.2	
		2	55	24.2	
REASON: Ash buildup in ductwork.					Ducts cleared out.

2. The aggregate time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	0	0	3	0

3. The percentage of operating time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0%	0%	0.00298%	0%

**B. ALL UNITS (Opacity  $>40\%$ )**

1. All 1-minute averages during unit operation when observed opacity is greater than or equal to 40% for Units 1, 2, 3, and 4:

TABLE B1 - OPACITY EXCEEDENCES >40%					
3 <sup>rd</sup> QUARTER 2005					
UNITS 1,2,3 and 4					
UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
1	9/30/05	8	4	71.5	
REASON: Opacity spiked when FD and ID fans malfunctioned and ceased to operate.					Unit was immediately taken off line.
2	7/14/05	5	51	52.2	
		5	52	61.0	
		5	53	50.7	
REASON: Upon startup oil was overfed to Unit.					Unit fuel switched to coal.
2	9/18/05	1	59	45.5	
REASON: Opacity spiked during startup, cause was not determined.					Startup conditions were evaluated but no cause was found.
3	7/15/05	10	37	42.0	
REASON: Upon startup of an ID Fan opacity spiked when dust that had settled in the crossover ducts was disturbed.					Increased air and dust cleared.
3	7/28/05	15	5	69.9	
		15	6	93.6	
		15	7	55.2	
		17	11	79.0	
		17	12	72.6	
REASON: Coal feed mechanism malfunctioned sending excess fuel (coal) to Unit.					Operators shut down the pulverizer therefore the fuel feed.
3	9/19/05	3	21	84.5	
		3	22	95.9	
		12	56	83.5	
		12	57	60.5	
REASON: Upon restart from a planned shutdown water present in the pulverizer caused an opacity exceedance. This is reported as two events in the summary page. After the first event at 0321, no root cause was found. After the second event at 1256, the root cause was discovered.					The pulverizer was opened and emptied of water.

2. The aggregate time reported in II.B.1 above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	1	4	10	0

3. The percentage of operating time reported in II.B.1 above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0.00075%	0.0034%	0.00695%	0%

**C. ALL UNITS (Aggregate excess opacity)**

1. The *percentage* of operating time when operating with excess opacity emissions, as defined above:

UNIT	1	2	3	4
PERCENT	0.00075%	0.0034%	0.00993%	0%

**D. ALL UNITS (Opacity monitors inoperative)**

1. The date and time identifying each period and its duration during which the opacity system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments:

UNIT	DATE	START (24 HR)	FINISH (24 HR)	DURATION (Minutes)	NATURE OF REPAIRS
1	7/3/05	1235	1242	8	Opacity Maintenance
1	7/9/05	0748	0758	11	Opacity Maintenance
1	9/11/05	1236	1242	7	Opacity Maintenance
1	9/19/05	0823	0825	3	Q.A Opacity Audit
1	9/7/05	0815	0817	3	Missing Data
1	9/3/05	0835	0841	7	Opacity Maintenance
2	7/3/05	1235	1242	8	Opacity Maintenance
2	7/9/05	0753	0758	6	Opacity Maintenance
2	9/3/05	0853	0841	9	Opacity Maintenance
2	9/11/05	1238	1244	7	Opacity Maintenance
2	9/29/05	0710	1057	188	Calibration Error Test
3	7/3/05	1235	1242	8	Opacity Maintenance
3	9/3/05	0831	0840	10	Opacity Maintenance
4	9/11/05	1040	1056	17	Opacity Maintenance

**PART III NO<sub>x</sub>****A. UNITS 1, 2 and 3 (24 hour average >0.33 lb/MMBtu); UNIT 4 (24 hour average >0.28 lb/MMBtu)**

1. All times when the 24-hour average for NO<sub>x</sub> is exceeded for Units 1, 2, 3 and 4:

**NONE**

2. The aggregate time reported in III.A.1 above, is exceeded for Units 1,2,3 and 4:

**NONE**

3. The percentage of operating time reported in III.A.1 above, for Units 1, 2, 3 and 4:

**NONE**

4. All instances where NO<sub>x</sub> compliance is not achievable because of delivery of a previously undemonstrated coal:

**NONE****B. STARTUPS**

1. All times when startup hours are omitted from the calculation of the 24-hour average NO<sub>x</sub> for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average NO <sub>x</sub> Including Startups (lb/MM Btu)	Reportable 24-Hour Average NO <sub>x</sub> (lb/MM Btu)
2	7/13/05	6.25	0.325	0.000
2	9/17/05	7.00	0.356	0.000

**PART IV CO****A. ALL UNITS (Unit 1,2 and 3 CO > 200 ppmvd corrected to 3% O<sub>2</sub>, or 0.166 lbs/MMBtu; Unit 4 > 130 ppmvd corrected to 3%O<sub>2</sub>, or 0.101 lbs/MMBtu)**

1. All times when the 24-hour average for CO is exceeded for Units 1, 2, 3 and 4:

**NONE**

2. The aggregate time reported in IV.A.1. above, is exceeded for Units 1, 2, 3 and 4:

**NONE**

3. The percentage of operating time reported in IV.A.1. above, for Units 1, 2, 3 and 4:

**NONE**

4. All instances where CO compliance is not achievable because of delivery of a previously undemonstrated coal:

**NONE**

**B. STARTUPS**

1. All times when startup hours are omitted from the calculation of the 24-hour average CO for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average CO Including Startups (lb/MM Btu)	Reportable 24-Hour Average CO (lb/MM Btu)
2	7/13/05	6.25	0.379	0.000
2	9/19/05	7.00	0.361	0.000
3	7/15/05	14.50	0.169	0.000
3	8/25/05	11.25	1.331	0.000
3	9/17/05	4.50	0.640	0.000
4	7/4/05	8.25	0.770	0.000
4	7/5/05	8.00	0.394	0.079
4	7/6/05	3.75	0.581	0.000
4	7/7/05	3.25	0.939	0.000
4	7/10/05	7.00	0.420	0.000
4	7/13/05	9.00	0.181	0.027
4	7/15/05	6.25	0.646	0.027
4	7/16/05	20.75	0.381	0.000
4	7/18/05	5.50	0.161	0.005
4	7/22/05	5.00	0.640	0.018
4	7/24/05	9.00	0.499	0.000
4	8/1/05	8.50	0.391	0.000
4	8/6/05	0.25	8.670	0.000
4	8/10/05	0.75	0.718	0.000
4	8/11/05	13.00	0.227	0.004
4	8/14/05	6.50	0.564	0.000
4	8/23/05	8.75	0.626	0.000
4	8/28/05	6.25	0.446	0.000
4	8/31/05	9.25	0.236	0.020
4	9/1/05	6.00	0.146	0.010
4	9/6/05	8.00	0.697	0.000
4	9/8/05	6.00	0.142	0.025
4	9/12/05	4.50	0.128	0.024
4	9/18/05	8.50	0.959	0.000
4	9/22/05	6.50	0.136	0.012
4	9/25/05	7.75	0.708	0.000
4	9/23/05	5.00	0.106	0.024
4	9/25/05	7.75	0.708	0.000

**PART V     CEMS****A. ALL UNITS (CEMS out of service)**

1. Data and duration of the time that both the primary and redundant CEMS (not including opacity) are out of service due to malfunction, maintenance or adjustment. Time periods for routine calibration checks will not be included:

UNIT	DATE (Month/Day)	START (Hour)	FINISH (Hour)	DURATION (Hours)	CEM	NATURE, CAUSE AND CORRECTIVE ACTION
	NONE					

**B. ALL UNITS (CEMS Performance Tests)**

1. Most recent CEMS performance test results and date for both the primary and redundant systems:

UNIT	Date Complete	Performance Test	CEM	Result Summary
1	3/24/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
2	3/31/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
3	3/23/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
4	7/6/05 6/24/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
1	Primary 9/1/05 Redundant 8/29/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
2	Primary 9/21/05 Redundant 9/21/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
3	Primary 9/9/05 Redundant 8/4/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
4	Primary 10/6/05 Redundant 4/20/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
1	Redundant 9/27/05	Leak check	Flow	Passed



2	Redundant 9/27/05	Leak Check	Flow	Passed
3	Redundant 9/27/05	Leak Check	Flow	Passed
4	Redundant 9/30/05	Leak Check	Flow	Passed
1	10/14/05*	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
2	9/29/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
3	10/11/05*	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
4	9/28/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.

\* Please see the attached request for an extension of the opacity calibration error tests for Unit 1 and 3. Also, see the attached update to the Salem Harbor Station SOMP addressing future opacity grace period requests.

Dominion Energy New England, Inc.  
Dominion Energy Salem Harbor  
24 Fort Avenue, Salem, MA 01970



October 28, 2005

Mr. James Belsky  
Air Quality Control Section Chief  
Massachusetts Department of Environmental Protection – NERO  
One Winter Street  
Boston, MA 02108

Re: Quarterly Opacity Tests for Salem Harbor Station

Per the NOx RACT ECP dated 6/28/1997, Dominion Salem Harbor submits this 3<sup>rd</sup> quarter Emission Exceedance Report (EER) to MADEP. As part of the EER, the Station summarizes the quarterly opacity calibration error tests for Unit 1,2,3 and 4. The Facility follows the opacity testing as specified in Performance Specification 1 found in 40 CFR Part 60, Appendix B. As per Robert DeRosier's October 12, 2005 discussion with Joseph Su, I write to confirm a mutual agreement for an extension of the deadline for performing the tests for Unit 1 and 3 for the 3<sup>rd</sup> Quarter 2005 from September 30, 2005 to October 14, 2005, the date of the last completed test.

The extension was necessary because operational schedules did not allow the completion of the requisite tests by the end of the 3<sup>rd</sup> quarter. The conversation with Joseph Su concluded in a determination that there was no clear instruction on how to handle grace periods for opacity testing. As a result, an addendum to the Station's SOMP has been developed and the SOMP has been updated. I am submitting a copy of that addendum with this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Fitzgerald".

Michael Fitzgerald  
Station Director

Dominion Energy New England, Inc.  
Dominion Energy Salem Harbor  
24 Fort Avenue, Salem, MA 01970



October 15<sup>th</sup>, 2005

Addendum to SOMP

RE: Grace Periods for Opacity Calibration Errors Tests

Purpose: The purpose of this addendum to the Station SOMP is to clarify how Salem Harbor Station will address events that threaten our ability to complete the required quarterly opacity tests.

Scope: This addendum is limited to opacity requirements under the NOx RACT program and the calibration error tests required every quarter.

History: After a review of the regulations and a discussion with Joseph Su of the DEP on October 12, 2005, there exists no explicit grace period for performing the opacity tests required in 40 CFR Part 60. Salem Harbor Station has not had to utilize a grace period exemption for opacity until the 3<sup>rd</sup> quarter 2005 when two units were tested after September 30. It was due to this occurrence that the lack of specific grace period language was discovered.

Addendum: In order to address this gap in the regulations the Station has decided to insert the following language to this SOMP:

- Every effort will be made that all quarterly opacity tests as required by Performance Specification 1 in Appendix B of 40 CFR part 60 will be performed within the quarter they are designated to represent. If the Maintenance Planner or Maintenance Supervisor in charge of the CEMS monitoring maintenance program determines that one or more of the referenced tests are in jeopardy of being completed within the quarter the maintenance representative will alert the CEMS coordinator. The CEMS coordinator will make a formal written request of the DEP to extend the deadline before the end of the quarter. This written request must be postmarked within 7 days of the end of the quarter.

Dominion Energy New England, Inc.  
Dominion Energy Salem Harbor  
24 Fort Avenue, Salem, MA 01970

RWP-AQ REPORT

PASS

CB 8/12/05

FMF ✓



July 26, 2005

Mr. James Belsky  
Bureau of Waste Prevention, Section Chief  
Massachusetts Department of Environmental Protection  
Metropolitan Boston / Northeast Regional Office  
1 Winter Street  
Boston, MA 02108

Dear Mr. Belsky:

**Re: 2nd Quarter 2005 Quarterly Excess Emission Report-Salem Harbor Generating Station**

In accordance with the requirements of 310 CMR 7.14: (2), Dominion Energy New England, Inc., is submitting its quarterly report of continuous emissions monitoring (CEM) at its Salem Harbor Station, Units 1, 2, 3 and 4 for the quarter. The revised format report includes all information included in our earlier submittals and has been updated to reflect additional information in our SOMP for Units 1, 2, 3 and 4. This report is organized as follows:

Summary Table  
Part I-Operating Time  
Part II-Opacity  
Part III-NOx  
Part IV-CO  
Part V-CEM

It is our understanding, since May 19, 1992, that excess emissions are reportable only if there is a fire in the boiler.

If you have any questions, please contact Mr. Robert DeRosier at (978) 740-8402.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Michael A. Fitzgerald", written over a large, loopy flourish.

Michael A. Fitzgerald  
Station Director

cc: E Braczyk  
L Arak  
R DeRosier  
C Harrow  
S Dulong

RECEIVED

JUL 26 2005

NEP  
NORTHEAST REGIONAL OFF

SH\_EER\_05Q2.xls

7/22/2005

Salem Harbor Station					
Excess Emissions and CEMS Performance Summary Report					Q2 2005
Summary		UNIT 1	UNIT 2	UNIT 3	UNIT 4
Total Source Operating Time		1,697.00	2,041.00	2,135.00	725.00
CEM Online Hours					
Nox [TECo monitor]		1,697.00	2,041.00	2,135.00	725.00
CO [TECo monitor]		1,696.25	2,040.50	2,135.00	723.00
Opacity [USI monitor]		1,693.72	2,039.03	2,132.00	723.88
Percentage of CEM/Online					
NOx		100.00%	100.00%	100.00%	100.00%
CO		99.96%	99.98%	100.00%	99.72%
Opacity		99.81%	99.90%	99.86%	99.85%
Applicable Limit (24 Hours)					
NOx (lb/MMBtu)		0.33	0.33	0.33	0.28
CO (ppmvd @3%O2)		200	200	200	130
Opacity		Varies	Varies	Varies	Varies
Excess Emissions Summary					
Nox	Number of events	-	-	-	-
	Duration (hrs)	-	-	-	-
	% of uptime	0%	0%	0%	0%
CO	Number of events	-	-	-	-
	Duration (hrs)	-	-	-	-
	% of uptime	0%	0%	0%	0%
Opacity	Number of events	-	1	-	-
	Duration (hrs)	-	0.02	-	-
	% of uptime	0.0000%	0.0008%	0.0000%	0.00%
Excess Emissions (events) Due To:					
Control Equipment Problems					
Process Problems			1		
Other Known/Unknown Causes					
Monitor Malfunctions					
Startup/Shutdown Days		3	6	1	36
CEMS Performance Summary		**Hi NOx Span/Low NOx Span			
Zero Calibration Failures		0	0	0	0
Span Calibration Failures		0/0**	0/0**	0/0**	0/0**
CEMS Downtime (hours) Due To:					
Monitor Malfunctions	NOx	0.00	0.00	0.00	0.00
	CO	0.00	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00
Non-Monitor Equipment Malfunctions	NOx	0.00	0.00	0.00	0.00
	CO	0.00	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00
QA/QC Calibrations	NOx	0.00	0.00	0.00	0.00
	CO	0.00	0.00	0.00	0.00
	Opacity	3.28	1.10	3.00	1.12
		3.28	1.10	3.00	1.12
Other Known Causes	NOx	0.00	0.00	0.00	0.00
	CO	0.75	0.50	0.00	2.00
	Opacity	0.00	0.87	0.00	0.00
		0.75	1.37	0.00	2.00
Other Unknown Causes	NOx	0.00	0.00	0.00	0.00
	CO	0.00	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00
Duration of CEMS Downtime (hours)		4.03	2.47	3.00	3.12
Percentage of Operating Hours		0.24%	0.12%	0.14%	0.43%

**SALEM HARBOR GENERATING STATION  
QUARTERLY EXCESS EMISSION REPORT  
April 1 to June 30, 2005**

**PART I      OPERATING TIME**

1. The aggregate operating time per calendar quarter when any fuel is being fired at any rate into the boiler:

UNIT	1	2	3	4
HOURS	1,697	2,041	2,135	725

**PART II      OPACITY**

**A. UNITS 1, 2, and 3 ( $20 \leq \text{opacity} < 40\%$ ): UNIT 4 ( $15 \leq \text{opacity} < 40\%$ )**

1. All 1-minute averages (excluding the first six 1-minute averages in each hour) when the observed opacity is greater than or equal to 20% and less than 40% during operation of Units 1, 2, and 3 or greater than or equal to 15% and less than 40% percent during operation of Unit 4:

TABLE A1 - OPACITY EXCEEDENCES $>20\%$ (or $15\%$ ) but $<40\%$ 2 <sup>nd</sup> QUARTER 2005 UNITS 1,2,3 and 4 (Unit 4 $>15\%$ )					
UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
NONE					

2. The aggregate time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	0%	0%	0%	0%

3. The percentage of operating time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0%	0%	0%	0%

**B. ALL UNITS (Opacity >40%)**

1. All 1-minute averages during unit operation when observed opacity is greater than or equal to 40% for Units 1, 2, 3, and 4:

TABLE B1 - OPACITY EXCEEDENCES >40% 2 <sup>nd</sup> QUARTER 2005 UNITS 1,2,3 and 4					
UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
2	6/5/2005	17	57	41.5	
REASON: Opacity spiked when FD fans were put in automatic and air flow increased.					FD fans were immediately put into manual and air flows were stabilized.

2. The aggregate time reported in II.B.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	0	1	0	0

3. The percentage of operating time reported in II.B.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0%	0.0008%	0%	0%

**C. ALL UNITS (Aggregate excess opacity)**

1. The percentage of operating time when operating with excess opacity emissions, as defined above:

UNIT	1	2	3	4
PERCENT	0%	0.0008%	0%	0%

**D. ALL UNITS (Opacity monitors inoperative)**

1. The date and time identifying each period and its duration during which the opacity

system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments:

UNIT	DATE	START (24 HR)	FINISH (24 HR)	DURATION (Minutes)	NATURE OF REPAIRS
1	5/1/2005	1011	1016	6	Opacity Maintenance
1	5/15/2005	0752	0753	2	Opacity Maintenance
1	5/22/2005	0844	0844	1	Opacity Maintenance
1	6/5/2005	0756	0756	1	Opacity Maintenance
1	6/14/2005	0747	1024	158	Q.A Opacity Audit
1	6/26/2005	0747	0747	1	Opacity Maintenance
2	4/3/2005	1160	1204	5	Opacity Maintenance
2	4/16/2005	1254	1307	14	Opacity Maintenance
2	4/23/2005	1227	1229	3	Opacity Maintenance
2	5/15/2005	0755	0805	11	Opacity Maintenance
2	5/19/2005	0820	0820	1	Missing Data, Time adjustment
2	5/19/2005	0827	0827	1	Missing Data, Time adjustment
2	5/19/2005	0829	0829	1	Missing Data, Time adjustment
2	5/16/2005	1439	1530	52	Missing Data – Analyzer problems
2	6/5/2005	0758	0758	1	Opacity Maintenance
2	6/12/2005	0843	0843	1	Opacity Maintenance
2	6/18/2005	1027	1029	3	Opacity Maintenance
3	4/3/2005	1200	1205	6	Opacity Maintenance
3	4/16/2005	1254	1305	12	Opacity Maintenance
3	4/23/2005	1244	1247	4	Opacity Maintenance
3	5/1/2005	1010	1016	7	Opacity Maintenance



UNIT	DATE	START (24 HR)	FINISH (24 HR)	DURATION (Minutes)	NATURE OF REPAIRS
3	5/15/2005	0758	0800	3	Opacity Maintenance
3	6/18/2005	1029	1029	1	Opacity Maintenance
3	6/21/2005	0717	0923	127	Q.A Opacity Audit
4	4/26/2005	1229	1315	47	Q.A Opacity Audit

**PART III    NO<sub>x</sub>****A.    UNITS 1, 2 and 3 (24 hour average >0.33 lb/MMBtu); UNIT 4 (24 hour average >0.28 lb/MMBtu)**

1. All times when the 24-hour average for NO<sub>x</sub> is exceeded for Units 1, 2, 3 and 4:  
**NONE**
2. The aggregate time reported in III.A.1. above, is exceeded for Units 1,2,3 and 4:  
**NONE**
3. The percentage of operating time reported in III.A.1. above, for Units 1, 2, 3 and 4:  
**NONE**
4. All instances where NO<sub>x</sub> compliance is not achievable as a result of delivery of a previously undemonstrated coal:  
**NONE**

**B. STARTUPS**

1. All times when startup hours are omitted from the calculation of the 24-hour average NO<sub>x</sub> for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average NO <sub>x</sub> Including Startups (lb/MM Btu)	Reportable 24-Hour Average NO <sub>x</sub> (lb/MM Btu)
1	4/22/2005	15.25	0.435	0.000
1	4/23/2005	24	0.408	0.000
2	4/12/2005	4.75	0.437	0.000
2	5/1/2005	10	0.448	0.000
4	4/10/2005	7.5	0.232	0.000

PART IV CO

A. *ALL UNITS (Unit 1,2 and 3 CO > 200 ppmvd corrected to 3% O<sub>2</sub>, or 0.166 lbs/MMBtu; Unit 4 > 130 ppmvd corrected to 3%O<sub>2</sub>, or 0.101 lbs/MMBtu)*

1. All times when the *24-hour average* for CO is exceeded for Units 1, 2, 3 and 4:

NONE

2. The *aggregate* time reported in IV.A.1. above, is exceeded for Units 1, 2, 3 and 4:

NONE

3. The *percentage* of operating time reported in IV.A.1. above, for Units 1, 2, 3 and 4:

NONE

4. All instances where CO compliance is not achievable as a result of delivery of a previously undemonstrated coal:

NONE

**B. STARTUPS**

1. All times when startup hours are omitted from the calculation of the 24-hour average CO for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average CO Including Startups (lb/MM Btu)	Reportable 24-Hour Average CO (lb/MM Btu)
1	4/22/2005	15.25	0.230	0.000
1	4/23/2005	24	0.463	0.000
2	4/12/2005	4.75	0.421	0.000
2	5/1/2005	10	0.238	0.000
2	6/22/2005	12.75	0.251	0.047
4	4/10/2005	7.5	0.708	0.000
4	4/11/2005	9	0.242	0.008
4	4/13/2005	7.75	0.406	0.023
4	4/17/2005	3	0.771	0.000
4	4/18/2005	10	0.183	0.021
4	4/19/2005	5.5	0.370	0.016
4	4/20/2005	7	0.163	0.056
4	4/23/2005	3	0.666	0.000
4	4/25/2005	6	0.122	0.012
4	4/26/2005	5.5	0.144	0.013
4	4/27/2005	5	0.105	0.012
4	4/30/2005	4.25	0.132	0.024
4	5/1/2005	3.75	0.256	0.000
4	5/5/2005	8.25	0.690	0.000
4	5/10/2005	8.75	0.785	0.000
4	5/11/2005	6.75	0.104	0.010
4	5/12/2005	11	1.507	0.000
4	5/13/2005	4.75	0.699	0.000
4	6/6/2005	9	0.797	0.000
4	6/7/2005	6.5	0.161	0.066
4	6/8/2005	5.75	0.331	0.038
4	6/12/2005	4.75	1.132	0.000
4	6/13/2005	8	0.318	0.027
4	6/23/2005	9.5	0.844	0.000
4	6/28/2005	7.25	0.141	0.017
4	6/29/2005	12.75	0.146	0.011

**PART V CEMS****A. ALL UNITS (CEMS out of service)**

1. Data and duration of the time that both the primary and redundant CEMS (not including opacity) are out of service due to malfunction, maintenance or adjustment. Time periods for routine calibration checks will not be included:

UNIT	DATE (Month/Day)	START (Hour)	FINISH (Hour)	DURATION (Hours)	CEM	NATURE, CAUSE AND CORRECTIVE ACTION
	NONE					

**B. ALL UNITS (CEMS Performance Tests)**

1. Most recent CEMS performance test results and date for both the primary and redundant systems:

UNIT	Date Complete	Performance Test	CEM	Result Summary
1	3/24/2005	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
2	3/31/2005	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
3	3/23/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
4	7/6/05 6/24/05	RATA	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
1	Primary 5/27/05 Redundant 6/2/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
2	Primary 6/6/05 Redundant 6/10/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
3	Primary 6/22/05 Redundant 6/23/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
4	Primary 6/26/05 Redundant 4/20/05	Linearity Check	SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , CO	All gases passed on the Primary & Redundant System Linearity test.
1	Redundant 6/19/05	Leak check	Flow	Passed

2	Redundant 6/19/05	Leak Check	Flow	Passed
3	Redundant 6/19/05	Leak Check	Flow	Passed
4	Redundant 7/22/05	Leak Check	Flow	Passed
1	6/14/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
2	6/20/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
3	6/21/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
4	6/3/05	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.

Dominion Energy New England, Inc.  
Dominion Energy Salem Harbor  
24 Fort Avenue, Salem, MA 01970

BWP-AQ REPORT  
PASS  
CB 5/25/05  
FMF ✓



April 25, 2005

Mr. James Belsky  
Bureau of Waste Prevention, Section Chief  
Massachusetts Department of Environmental Protection  
Metropolitan Boston / Northeast Regional Office  
1 Winter Street  
Boston, MA 02108

Dear Mr. Belsky:

**Re: 1st Quarter 2005 Quarterly Excess Emission Report-Salem Harbor Generating Station**

In accordance with the requirements of 310 CMR 7.14: (2), Dominion Energy New England, Inc., is submitting its quarterly report of continuous emissions monitoring (CEM) at its Salem Harbor Station, Units 1, 2, 3 and 4 for the quarter. The revised format report includes all information included in our earlier submittals and has been updated to reflect additional information in our SOMP for Units 1, 2, 3 and 4. This report is organized as follows:

Summary Table  
Part I-Operating Time  
Part II-Opacity  
Part III-NOx  
Part IV-CO  
Part V-CEM

It is our understanding, since May 19, 1992, that excess emissions are reportable only if there is a fire in the boiler.

If you have any questions, please contact Mr. Robert DeRosier at (978) 740-8402.

Very truly yours,

A handwritten signature in black ink, appearing to read "Michael A. Fitzgerald", with a large, stylized loop at the end.

Michael A. Fitzgerald  
Station Director

cc: E Braczyk  
L Arak  
R DeRosier  
C Harrow  
S Dulong

SH\_EER\_05Q1.xls

4/25/2005

Salem Harbor Station				
Excess Emissions and CEMS Performance Summary Report				Q1 2005
Summary	UNIT 1	UNIT 2	UNIT 3	UNIT 4
Total Source Operating Time	2,158.50	2,092.00	2,092.75	672.25
CEM Online Hours				
Nox [TECo monitor]	2,156.50	2,090.00	2,090.75	672.25
CO [TECo monitor]	2,157.50	2,091.00	2,091.75	670.75
Opacity [USI monitor]	2,154.65	2,090.03	2,086.38	671.65
Percentage of CEM/Online				
NOx	99.91%	99.90%	99.90%	100.00%
CO	99.95%	99.95%	99.95%	99.78%
Opacity	99.82%	99.91%	99.70%	99.91%
Applicable Limit (24 Hours)				
NOx (lb/MMBtu)	0.33	0.33	0.33	0.28
CO (ppmvd @3%O2)	200	200	200	130
Opacity	Varies	Varies	Varies	Varies
Excess Emissions Summary				
Nox	Number of events	-	-	-
	Duration (hrs)	-	-	-
	% of uptime	0%	0%	0%
CO	Number of events	-	-	-
	Duration (hrs)	-	-	-
	% of uptime	0%	0%	0%
Opacity	Number of events	1	2	-
	Duration (hrs)	0.03	0.05	-
	% of uptime	0.0015%	0.0024%	0.00%
Excess Emissions (events) Due To:				
Control Equipment Problems				
Process Problems	1	1	2	
Other Known/Unknown Causes				
Monitor Malfunctions				
Startup/Shutdown Days	2	6	6	24
CEMS Performance Summary				
	**Hi NOx Span/Low NOx Span			
Zero Calibration Failures	0	0	1	0
Span Calibration Failures	0/0**	0/0**	0/0**	0/0**
CEMS Downtime (hours) Due To:				
Monitor Malfunctions	NOx	0.00	0.00	0.00
	CO	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00
		0.00	0.00	0.00
Non-Monitor Equipment Malfunctions	NOx	1.00	1.00	1.00
	CO	1.00	1.00	1.00
	Opacity	0.00	0.00	0.00
		2.00	2.00	0.00
QA/QC Calibrations	NOx	1.00	1.00	1.00
	CO	0.00	0.00	0.00
	Opacity	3.85	1.97	6.37
		4.85	2.97	7.37
Other Known Causes	NOx	0.00	0.00	0.00
	CO	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00
		0.00	0.00	1.50
Other Unknown Causes	NOx	0.00	0.00	0.00
	CO	0.00	0.00	0.00
	Opacity	0.00	0.00	0.00
		0.00	0.00	0.00
Duration of CEMS Downtime (hours)	6.85	4.97	9.37	2.10
Percentage of Operating Hours	0.32%	0.24%	0.45%	0.31%



**SALEM HARBOR GENERATING STATION  
QUARTERLY EXCESS EMISSION REPORT  
January 1 to March 31, 2005**

**PART I     OPERATING TIME**

1. The aggregate operating time per calendar quarter when any fuel is being fired at any rate into the boiler:

UNIT	1	2	3	4
HOURS	2,158.50	2,092.00	2,092.75	672.25

**PART II     OPACITY**

**A. UNITS 1, 2, and 3 ( $20 \leq \text{opacity} < 40\%$ ): UNIT 4 ( $15 \leq \text{opacity} < 40\%$ )**

1. All 1-minute averages (excluding the first six 1-minute averages in each hour) when the observed opacity is greater than or equal to 20% and less than 40% during operation of Units 1, 2, and 3 or greater than or equal to 15% and less than 40% percent during operation of Unit 4:

TABLE A1 - OPACITY EXCEEDENCES $>20\%$ (or $15\%$ ) but $<40\%$ 3 <sup>rd</sup> QUARTER 2005 UNITS 1,2,3 and 4 (Unit 4 $>15\%$ )					
UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
NONE					

2. The aggregate time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	0	0	0	0

3. The percentage of operating time reported in II.A.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0%	0%	0%	0%

**B. ALL UNITS (Opacity >40%)**

1. All 1-minute averages during unit operation when observed opacity is greater than or equal to 40% for Units 1, 2, 3, and 4:

TABLE B1 - OPACITY EXCEEDENCES >40%					
1 <sup>st</sup> QUARTER 2005					
UNITS 1,2,3 and 4					
UNIT	DATE	HOUR	MINUTE	OPACITY	ACTION
1	2/20/2005	14	55	45.0	
			56	67.6	
REASON: ID and FD fan dampers malfunctioned. Automatic mode failed.					Dampers put in manual and coal feed rate reduced.
2	1/30/2005	19	23	55.4	
			24	72.9	
			25	48.2	
REASON: Coal feed control malfunctioned from one of the mills causing excess coal feed to the boiler.					Coal feed rate reduced to all mills. Boiler operating conditions adjusted to reduce emissions.
3	1/05/2005	19	27	43.9	
REASON: Precipitator level high.					Dropped load. Maintenance called in to address high ash levels.
3	2/20/2005	15	54	49.0	
			55	51.0	
REASON: ID fans and FD fans lost power. Automatic mode failed.					Fans placed in manual and adjusted. Reduced fuel, dropped load.

2. The aggregate time reported in II.B.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
MINUTES	2	3	3	0

3. The percentage of operating time reported in II.B.1. above, for Units 1, 2, 3 and 4:

UNIT	1	2	3	4
PERCENT	0.0015%	0.0024%	0.0024%	0%

**C. ALL UNITS (Aggregate excess opacity)**

1. The *percentage* of operating time when operating with excess opacity emissions, as defined above:

UNIT	1	2	3	4
PERCENT	0.0015%	0.0024%	0.0024%	0%

**D. ALL UNITS (Opacity monitors inoperative)**

1. The date and time identifying each period and its duration during which the opacity system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments:

UNIT	DATE	START (24 HR)	FINISH (24 HR)	DURATION (Minutes)	NATURE OF REPAIRS
1	1/10/2005	1346	1355	8	Q.A Opacity Audit
1	1/22/2005	1306	1311	6	Q.A Opacity Audit
1	2/12/2005	1334	1342	9	Q.A Opacity Audit
1	2/27/2005	1041	1043	3	Q.A Opacity Audit
1	3/9/2005	0822	1033	132	Q.A Opacity Audit
1	3/13/2005	1035	1045	11	Q.A Opacity Audit
1	3/18/2005	1353	1427	35	Power Outage
1	3/30/2005	0757	0807	11	Q.A Opacity Audit
2	1/10/2005	1345	1254	10	Q.A Opacity Audit
2	1/22/2005	1305	1310	6	Q.A Opacity Audit
2	2/12/2005	1334	1343	10	Q.A. Opacity Audit
2	2/27/2005	1042	1044	3	Q.A. Opacity Audit
2	2/8/2005	1521	1531	11	Q.A Opacity Audit
2	3/13/2005	1037	1047	11	Q.A Opacity Audit

UNIT	DATE	START (24 HR)	FINISH (24 HR)	DURATION (Minutes)	NATURE OF REPAIRS
2	3/18/2005	1353	1427	35	Power Outage
2	3/30/2005	0756	0806	11	Q.A Opacity Audit
3	1/10/2005	1345	1354	10	Q.A Opacity Audit
3	1/16/2005	1117	1123	7	Q.A. Opacity Audit
3	1/18/2005	1310	1316	7	Q.A. Opacity Audit
3	1/27/2005	0734	0749	16	Q.A. Opacity Audit
3	2/12/2005	1334	1343	10	Q.A Opacity Audit
3	2/27/2005	1042	1044	3	Q.A Opacity Audit
3	3/4/2005	0704	0922	139	Q.A Opacity Audit
3	3/13/2005	1036	1046	11	Q.A Opacity Audit
3	3/15/2005	0836	1048	145	Failed Calibration – Monitor Maintenance
3	3/18/2005	1353	1427	35	Power Outage
3	3/30/2005	0756	0806	11	Q.A. Opacity Audit
4	1/29/2005	1348	1403	16	Opacity Audit
4	3/13/2005	1428	1439	12	Opacity Audit

**PART III    NO<sub>x</sub>*****A. UNITS 1, 2 and 3 (24 hour average >0.33 lb/MMBtu); UNIT 4 (24 hour average >0.28 lb/MMBtu)***

1. All times when the *24-hour average* for NO<sub>x</sub> is exceeded for Units 1, 2, 3 and 4:  
**NONE**
2. The *aggregate* time reported in III.A.1. above, is exceeded for Units 1,2,3 and 4:  
**NONE**
3. The *percentage* of operating time reported in III.A.1. above, for Units 1, 2, 3 and 4:  
**NONE**
4. All instances where NO<sub>x</sub> compliance is not achievable as a result of delivery of a previously undemonstrated coal:  
**NONE**

***B. STARTUPS***

1. All times when startup hours are omitted from the calculation of the 24-hour average NO<sub>x</sub> for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average NO <sub>x</sub> Including Startups (lb/MM Btu)	Reportable 24-Hour Average NO <sub>x</sub> (lb/MM Btu)
2	3/23/2005	10.00	0.380	0.251

**PART IV    CO**

**A. ALL UNITS (Unit 1,2 and 3 CO > 200 ppmvd corrected to 3% O<sub>2</sub>, or 0.166 lbs/MMBtu;  
Unit 4 > 130 ppmvd corrected to 3%O<sub>2</sub>, or 0.101 lbs/MMBtu)**

1. All times when the 24-hour average for CO is exceeded for Units 1, 2, 3 and 4:

**NONE**

2. The aggregate time reported in IV.A.1. above, is exceeded for Units 1, 2, 3 and 4:

**NONE**

3. The percentage of operating time reported in IV.A.1. above, for Units 1, 2, 3 and 4:

**NONE**

4. All instances where CO compliance is not achievable as a result of delivery of a previously undemonstrated coal:

**NONE**

**B. STARTUPS**

1. All times when startup hours are omitted from the calculation of the 24-hour average CO for Units 1, 2, 3 and 4:

Unit	Date	Duration (Hours)	24-Hour Average CO Including Startups (lb/MM Btu)	Reportable 24-Hour Average CO (lb/MM Btu)
2	1/9/2005	3.75	0.415	0.061
2	2/6/2005	11.25	0.482	0.000
2	3/12/2005	5.50	0.856	0.042
2	3/23/2005	10.00	0.676	0.047
3	1/23/2005	7.00	0.850	0.000
4	1/2/2005	5.75	0.853	0.000
4	1/5/2005	2.50	0.225	0.000
4	1/6/2005	12.00	0.188	0.004
4	1/17/2005	5.00	0.800	0.000
4	1/26/2005	10.00	0.411	0.085
4	1/30/2005	7.00	0.152	0.014
4	2/3/2005	4.00	0.874	0.000
4	2/21/2005	7.00	0.703	0.000
4	2/10/2005	7.00	0.160	0.007
4	2/23/2005	7.50	0.615	0.000
4	2/24/2005	8.00	0.122	0.006
4	2/26/2005	4.75	0.167	0.005
4	3/4/2005	2.00	0.489	0.000
4	3/5/2005	13.00	0.198	0.005
4	3/8/2005	6.25	0.116	0.015
4	3/10/2005	4.75	0.134	0.002
4	3/11/2005	6.00	0.111	0.006
4	3/12/2005	6.00	0.104	0.009
4	3/18/2005	8.75	0.625	0.000

**PART V     CEMS*****A. ALL UNITS (CEMS out of service)***

1. Data and duration of the time that both the primary and redundant CEMS (not including opacity) are out of service due to malfunction, maintenance or adjustment. Time periods for routine calibration checks will not be included:

UNIT	DATE (Month/Day)	START (Hour)	FINISH (Hour)	DURATION (Hours)	CEM	NATURE, CAUSE AND CORRECTIVE ACTION
1,2,3	3/18/2005	13	13	1	NOx, CO, SO2, CO2, Flow	Lost power to CEMS shelter for Unit 1,2, and 3

***B. ALL UNITS (CEMS Performance Tests)***

1. Most recent CEMS performance test results and date for both the primary and redundant systems:

UNIT	Date Complete	Performance Test	CEM	Result Summary
1	3/24/2005	RATA	SO2, NOx, CO2, CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
2	3/31/2005	RATA	SO2, NOx, CO2, CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
3	3/23/05	RATA	SO2, NOx, CO2, CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
4	7/26/04	RATA	SO2, NOx, CO2, CO, Flow	All gases and the flow monitors passed on the annual criteria for Part 75.
1	Primary 2/28/05 Redundant 2/23/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
2	Primary 3/3/05 Redundant 3/2/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
3	Primary 3/5/05 Redundant 3/4/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
4	Primary 3/19/05 Redundant 4/20/05	Linearity Check	SO2, NOx, CO2, CO	All gases passed on the Primary & Redundant System Linearity test.
1	Redundant 4/2/2005	Leak check	Flow	Passed



2	Redundant 4/2/2005	Leak Check	Flow	Passed
3	Redundant 4/2/2005	Leak Check	Flow	Passed
4	Redundant 4/6/2005	Leak Check	Flow	Passed
1	3/9/2005	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
2	2/5/2005	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
3	3/15/2005	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.
4	3/16/2005	Calibration Error Test	Opacity	3 filter Calibration Error Test successfully passed.